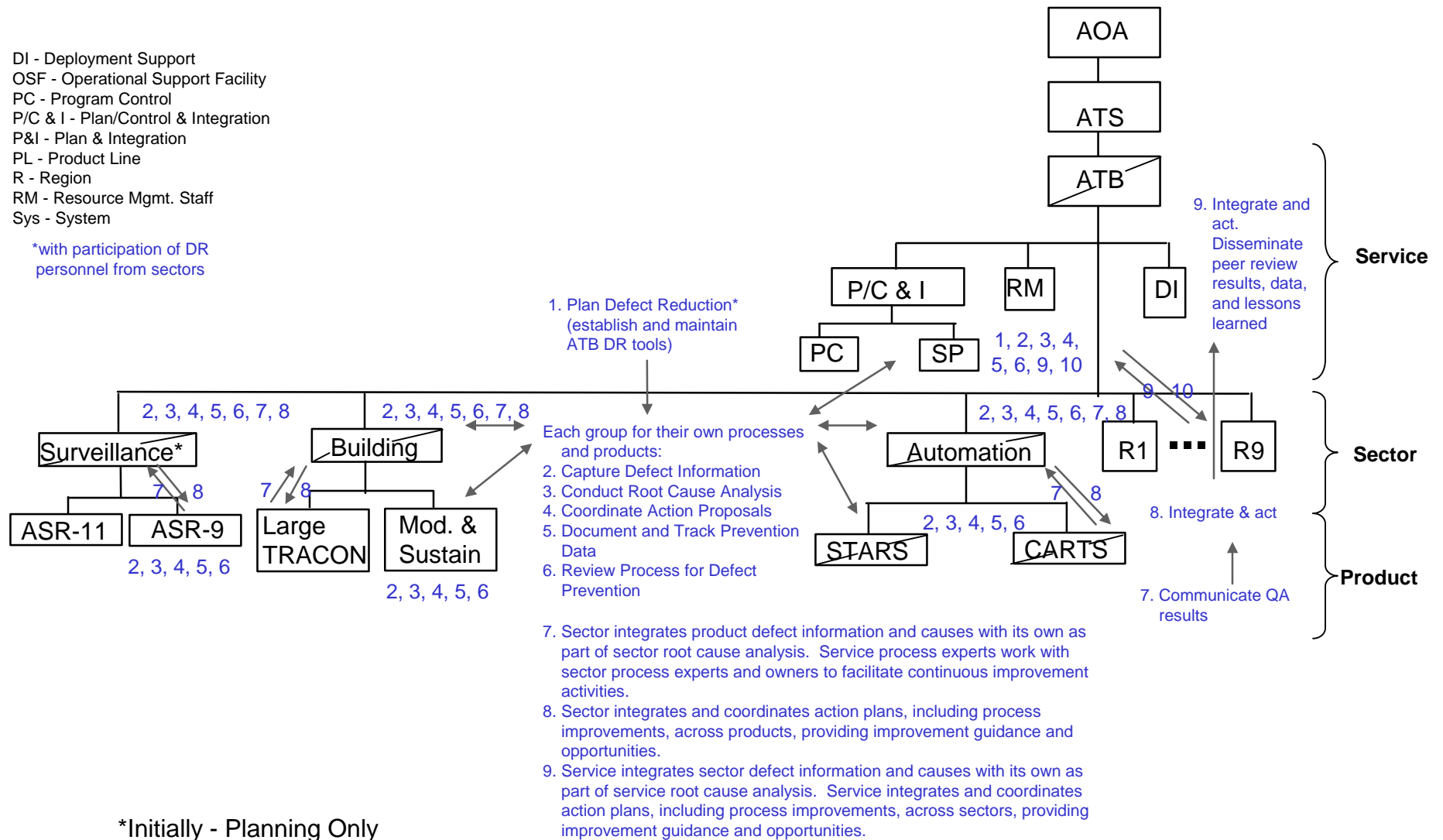# Cross ATB Defect Reduction
(aka Continuous Improvement)

DI - Deployment Support
OSF - Operational Support Facility
PC - Program Control
P/C & I - Plan/Control & Integration
P&I - Plan & Integration
PL - Product Line
R - Region
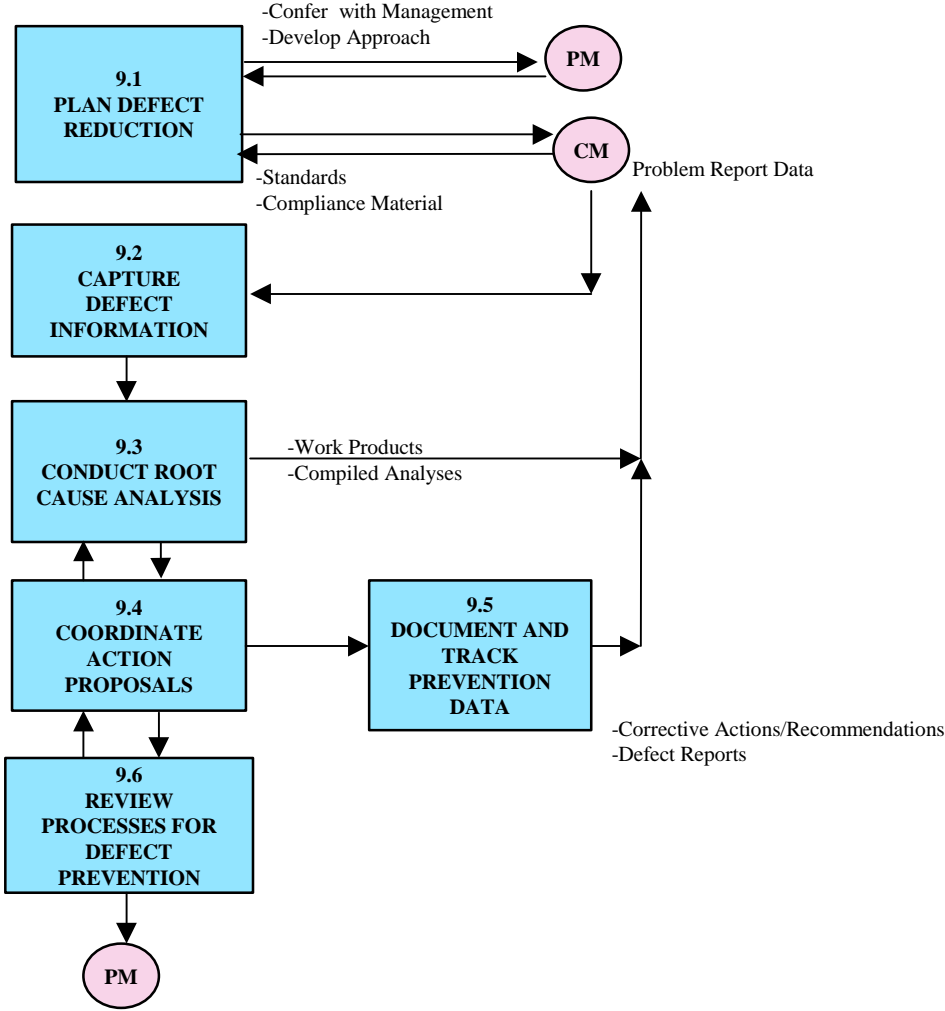RM - Resource Mgmt. Staff
Sys - System

*with participation of DR personnel from sectors

AOA

ATS

ATB

Service

9. Integrate and act. Disseminate peer review results, data, and lessons learned

P/C & I

RM

DI

PC

SP

1, 2, 3, 4, 5, 6, 9, 10

1. Plan Defect Reduction* (establish and maintain ATB DR tools)

9, 10

2, 3, 4, 5, 6, 7, 8

2, 3, 4, 5, 6, 7, 8

2, 3, 4, 5, 6, 7, 8

Surveillance*

Building

Automation

R1 ▪ ▪ ▪ R9

Sector

7, 8

7, 8

Each group for their own processes and products:
2. Capture Defect Information
3. Conduct Root Cause Analysis
4. Coordinate Action Proposals
5. Document and Track Prevention Data
6. Review Process for Defect Prevention

7, 8

8. Integrate & act

ASR-11

ASR-9

Large TRACON

Mod. & Sustain

STARS

CARTS

2, 3, 4, 5, 6

2, 3, 4, 5, 6

2, 3, 4, 5, 6

Product

2, 3, 4, 5, 6

7. Communicate QA results

7. Sector integrates product defect information and causes with its own as part of sector root cause analysis. Service process experts work with sector process experts and owners to facilitate continuous improvement activities.

8. Sector integrates and coordinates action plans, including process improvements, across products, providing improvement guidance and opportunities.

9. Service integrates sector defect information and causes with its own as part of service root cause analysis. Service integrates and coordinates action plans, including process improvements, across sectors, providing improvement guidance and opportunities.

*Initially - Planning Only

9.0 ATB Defect Reduction Process

Previous Process(s):
All active project processes

Performing Agent(s):

Organizational Practitioner

Input(s):

•Compliance Material
  •Mission Need Statement
  •Requirements Document
  •Investment Analysis Report
  •Acquisition Program Baseline
  •Acquisition Strategy Paper
  •Integrated Program Plan
•Process Description Documents
•Product Team Plan
•Problem Reports
•Recommended Corrective Actions

Purpose/Definition:
To determine the cause of defects and proactively work to eliminate defects thought improvement of processes, procedures, products, tools, techniques, etc.

Owner: ATB Product lead

Sub-Processes:
9.1 Plan Defect Reduction
9.2 Capture Defect Information
9.3 Conduct Root Cause Analysis
9.4 Coordinate Action Plans
9.5 Document and Track Prevention Data
9.6 Review Processes for Defect Prevention

Next Process:
This process is ongoing.

Customer(s):

•Organizational Practitioner
•Other PAs
•Auditees
•Service, Sector and Product Leads

Output(s):
• Approved QAMP
• Process Compliance Observations and Findings
• QA Reports
• Compiled Results of Analyses
• Recommendations
• Quality Improvement Plan, if needed

Metrics:
•Cost/schedule
•Time/duration

Reviews and Audits:
•ATB Review
•Peer Review

Entry Criteria:
•Product or process ready for QA activity. {As defined by the project QAMP}
•JRC-2 Investment Decision
•ATB Formed

Training/Tools/Handbooks/Policy:
Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM®

Exit Criteria:
Quality findings are documented and reported. Recommendations for corrective actions and improvement opportunities are resolved.

Defect Reduction

-Confer with Management
-Develop Approach

**9.1
PLAN DEFECT
REDUCTION**

PM

CM   Problem Report Data

-Standards
-Compliance Material

**9.2
CAPTURE
DEFECT
INFORMATION**

**9.3
CONDUCT ROOT
CAUSE ANALYSIS**

-Work Products
-Compiled Analyses

**9.4
COORDINATE
ACTION
PROPOSALS**

**9.5
DOCUMENT AND
TRACK
PREVENTION
DATA**

-Corrective Actions/Recommendations
-Defect Reports

**9.6
REVIEW
PROCESSES FOR
DEFECT
PREVENTION**

PM

| | Process Phase | | Process I/F |

12/14/00

9.1 Plan Defect Reduction

Previous Process(s):

Project activities resulting in defects

Performing Agent(s):

Organizational Practitioner

Input(s):

- Compliance Material
  – Mission Need Statement
  – Requirements Document
  – Investment Analysis Report
  – Acquisition Program Baseline
  – Acquisition Strategy Paper
  – Integrated Program Plan
- Process Description Documents
- Product Team Plan

Entry Criteria:
- JRC 2 Investment Decision
- ATB Formed

Purpose/Definition:

To establish and maintain an approach to defect reduction

Owner: ATB Product lead

Sub-Processes:

9.1.1 Define Defect
9.1.2 Assign Responsibility
9.1.3 Determine Applicable Standards
9.1.4 Develop/Update Approach
9.1.5 Implement Plan

Training/Tools/Handbooks/Policy:

Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM®

Next Process:

9.2 Capture Defect Information

- Organizational Practitioner
- ATB

Output(s):

- Approved Defect Reduction Plan

Metrics:
- Cost/schedule
- Time/duration

Reviews and Audits:
- ATB Review
- Peer Review, ASU Review

Exit Criteria:
- Approval of QAMP

9.2 Capture Defect Information

Previous Process(s):
9.1 Plan Defect Reduction

Performing Agent(s):
Organizational Practitioner

Input(s):
•Problem Reports
•Resolution to Corrective Actions

Purpose/Definition:
To identify and capture defect data and establish a repository.

Owner: ATB Product lead

Sub-Processes:

9.2.1 Extract Defect Data from potential sources
9.2.2 Develop Defect Information Database
9.2.3 Review Defect Data
9.2.4 Share Data Organizationally as required

Next Process:

•9.3 Conduct Root Cause Analysis

Customer(s):

•Organizational Practitioner

Output(s):

•Process Compliance Observations and Findings

Metrics:
•Cost/schedule
•Time/duration

Reviews and Audits:
•Peer Review

Entry Criteria:

•Project Defects

Training/Tools/Handbooks/Policy:
Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM®

Exit Criteria:
•Completed Process Compliance Observations and Findings

9.3 Conduct Root Cause Analysis

Previous Process(s): 9.2 Capture defect Information	**Purpose/Definition:** To determine the root cause of a given defect.	**Next Process:** •9.4 Analyze Quality Data
Performing Agent(s): Organizational Practitioner	**Owner:** ATB Product lead	**Customer(s):** •Organizational Practitioner
	Sub-Processes: 9.3.1 Investigate data and begin analysis 9.3.2 Document the specific criteria to be used 9.3.3 Determine issues and activities leading to defect 9.3.4 Document cause(s)	
Input(s): •Work Products •Process Description Documents •Approved QAMP •Resolution to Corrective Actions		**Output(s):** •Documented cause(s)
		Metrics: •Cost/schedule •Time/duration
		Reviews and Audits: •Peer Review
Entry Criteria: •An approved QAMP •Project work products and processes ready for evaluation/measurement	**Training/Tools/Handbooks/Policy:** Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM® ; QAMP	**Exit Criteria:** •Completed products and process findings/measurements

9.4 Coordinate Action Proposals

Previous Process(s):
  9.3 Conduct Root Cause Analysis

Performing Agent(s):

  Organizational Practitioner

Input(s):
•Root Cause Analysis results

Purpose/Definition:
  To coordinate action proposals with project personnel .

Owner: ATB Product lead

Sub-Processes:

  9.4.1 Examine root cause analysis and develop action proposals
  9.4.2 Peer Review action proposals
  9.4.3 Coordinate action proposals among project personnel

Next Process:

•9.5 Document and Track Prevention Data

Customer(s):

•Organizational Practitioner

Output(s):

•Action proposals

Metrics:
•Cost/schedule
•Time/duration

Reviews and Audits:
•Peer Review

Entry Criteria:
•Completed Process Compliance Observations and Findings from 9.2 "AND/OR"
•Completed Findings/Measurements from 9.3

Training/Tools/Handbooks/Policy:
  Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM®

Exit Criteria:
•Completion of Analysis

9.5 Document and Track Prevention Data

Previous Process(s):	**Purpose/Definition:**	**Next Process:**
9.4 Coordinate action proposals	To recommend Corrective Actions to Products or Processes	•9.6 Review processes for defect reduction
Performing Agent(s): •Organizational Practitioner	**Owner:** ATB Product lead	**Customer(s):** •Organizational Practitioner
Input(s): •Compiled Results of Analyses	**Sub-Processes:** 9.5.1 Report and record prevention data 9.5.2 Update database	**Output(s):** •Reports •Updated database
		Metrics: •Cost/schedule •Time/duration
		Reviews and Audits: •Peer Review
Entry Criteria: •Completion of Analysis	**Training/Tools/Handbooks/Policy:** Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM®	**Exit Criteria:** •All corrective actions have been identified

9.6 Review Processes for Defect Prevention

Previous Process(s):	**Purpose/Definition:**	**Next Process:**
9.5 Document and track prevention data	To review project processes in light of past defects in an effort to prevent future defects	•Overall defect reduction
Performing Agent(s):	**Owner:** ATB Product lead	**Customer(s):**
Organizational Practitioner	**Sub-Processes:**	•ATB •Functional Leads
Input(s):	9.6.1 Record Results	
•Process Descriptions	9.6.2 Prepare Reports	**Output(s):**
	9.6.3 Submit Reports or Communicate Results to Applicable Groups	•QA Reports •Recommendations
		Metrics: •Cost/schedule •Time/duration
		Reviews and Audits: •Peer Review •IPT/PT Review
Entry Criteria: •Completed corrective action identification	**Training/Tools/Handbooks/Policy:** Domain Training, FAA Policies/Standards; ISO 9000; AMS; FAA-iCMM®	**Exit Criteria:** •Results have been delivered